The Biotechnology Innovation Organization Presents:

The Fourteenth Annual Biotechnology Entrepreneurship Boot Camp

Sunday, June 3 and Monday, June 4, 2018
Room 204AB, Level 2
Boston Convention & Exhibition Center
415 Summer St., Boston, MA 02210

Boot Camp Co-Chairs

National Co-Chair

Dennis Gross, MS, PhD
CEO, Pennsylvania Drug Discovery Institute at The Pennsylvania Biotechnology Center

James Jordan, MBA, CHT
President & CEO, Pittsburgh Life Sciences Greenhouse
Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University

Local Co-Chairs

Edward Ross, Jr., MBA
President & CEO, ReadyDock, Inc.
Member, MassMedical Angels and Launchpad Venture Group

Amy Siegel, MA
Co-founder and President, S2N Health

National Co-Chair Emeritus

Arthur A. Boni, PhD
John R. Thorne Distinguished Career Professor of Entrepreneurship, Tepper School of Business, Carnegie Mellon University

Stephen M. Sammut, MBA
Senior Fellow, Health Care Management and Lecturer, Entrepreneurship, Wharton School, University of Pennsylvania

BIO-Coordinators

Sarah Arth, CAE
Vice President, Education Biotechnology Innovation Organization

Sarah Maki
Manager, Education Biotechnology Innovation Organization

Stephanie Haines
Coordinator, Education Biotechnology Innovation Organization
History: The 2005 to 2018 Boot Camps

The Biotechnology Entrepreneurship Boot Camp was founded by Professors Arthur Boni of the Tepper School of Business at Carnegie Mellon, and Steve Sammut of the Wharton School, and by Jeffrey Libson, Partner, Pepper Hamilton LLP and Lecturer at Wharton School Health Care Management Program. The first Boot Camp was launched at the 2005 BIO Industry Organization’s Annual Meeting in Philadelphia. The Boot Camp was originally designed as a program for CSOs but is now expanded in scope and design to address a broad range of issues for entrepreneurs more generally. The Boot Camp was created in response to the growing need in the managerial, scientific and academic community to learn about the necessary elements and skills to transform technology and invention into a viable company. The Biotechnology Innovation Organization through its BIO 2005 Academic-Industry Committee (“AI”) worked with the founders to develop this unique program to fill this knowledge gap. The insight and energy required for entrepreneurial success can be developed by anyone motivated to think strategically, select projects and plan for expeditious and cost-effective management, understand the requirements of all the involved stakeholders, and oversee the essential components of the commercialization process.

The Boot Camp concept is Philadelphia’s legacy gift to BIO and future annual meetings. The intention is that the Boot Camp will travel from year to year to each of the BIO International Convention venues – a veritable “moveable feast.” Now in its fourteenth year, the Boot Camp was offered at BIO International Convention’s in Chicago in 2006, 2010, and 2013, Boston in 2007 and 2012, Philadelphia in 2005 and 2015. San Diego in 2008, 2014 and 2017, Atlanta in 2009 and Washington, DC in 2011. The creation of the syllabus, the recruitment of faculty, and the faculty’s extensive preparation suggested that wherever possible there should be core faculty, i.e., a portion of the faculty from the Philadelphia Boot Camp who would volunteer from year to year. This approach has the added benefit of improving the presentations and the material from year to year as the faculty themselves identify what works, as well as how to teach together. Most of the faculty (and presenting companies), however, is recruited from the host region.

To facilitate and incorporate local participation, local co-chairs are recruited each year. In previous years, Local Co-Chairs were:

**Chicago, IL, 2006:**
- Panayiotis P. Constantinides, Ph.D, Principal, Biopharmaceutical & Drug Delivery Consulting
- Elsie Quaite-Randall, Ph.D., MBA Executive Director of the Office of Research Contracts and IP, McMaster University, formerly of Office of Technology Transfer, Argonne National Laboratory

**Boston, MA, 2007:**
- Robert Creeden, Partners HealthCare Systems, Inc., Managing Director, Center for Innovative Ventures

**San Diego, CA, 2008**
- Kurt A. May, MBA, Assistant Dean, Executive Development Center, Rady School of Management, University of California, San Diego
- Duane J. Roth, Chief Executive Officer and Member of the Board of CONNECT.
- Steve Flaim, PhD, FACC, FAHA, Chairman Emeritus, Tech Coast Angels, Director Angel Capital Association

**Atlanta, GA, 2009**
- Frank R. Hunt, MS MBA, President, SE bioStrategies, Inc., CEO, PNP Therapeutics, Inc.
- Dennis P. Schafer, CEO, Life Science Management

**Chicago, IL, 2010**
- Patrick G. Morand, Managing Director, SWMF Life Science Fund
- Charles B. Hoslet, Managing Director, UW-Madison Office of Corporate Relations
- Allen J. Dines, Assistant Director, Office of Corporate Relations, University of Wisconsin
Washington, DC, 2011
- Elana Fine, Director of Venture Investments, Dingman Center for Entrepreneurship, Robert H. Smith School of Business, University of Maryland
- Toby Gordon, Sc.D., Associate Professor, The Johns Hopkins Carey Business School
- Martha J. Connolly, Ph.D., Director, Maryland Industrial Partnerships, University of Maryland

Boston, MA, 2012
- Ashley J. Stevens, D.Phil. (Oxon), CLP, President, Focus IP Group, LLC and Lecturer, Strategy and Innovation Department, School of Management, Boston University
- Rekha Paleyanda, PhD, Sr. Business Strategy and Licensing Manager, Partners Healthcare

Chicago, IL, 2013
- Patrick G. Morand, Managing Partner, Open Prairie Ventures
- Allen J. Dines, Assistant Director, Office of Corporate Relations & Venture Designer Hybrid Zone X, University of Wisconsin-Madison

San Diego, CA, 2014
- Kurt A. May, MBA, Co-founder and Chairman, Psynomics Incorporated
- Larry Stambaugh, Founding Principal, Aperçu Partners
- Justin Chakma, Associate Director, Auspex Pharmaceuticals and Thomas, McNerney & Partners, LLC

Philadelphia, PA, 2015
- Dennis Gross, M.S., Ph.D., CEO, Pennsylvania Drug Discovery Institute at The Pennsylvania Biotechnology Center
- James Jordan, MBA, CHT, Chief Investment Officer, Pittsburgh Life Sciences Greenhouse, Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University
- Alex B. Reitz, PhD., CEO, Fox Chase Chemical Diversity Center, Inc., The Pennsylvania Biotechnology Center

San Francisco, CA 2016
- Benjamin Chen, Ph.D. Managing Director, Ignatius Transaction Partners
- Moira Gunn, Ph.D. Host, NPR - BioTech Nation, Director, Business of Biotechnology Program, Professor, School of Management University of San Francisco

San Diego, CA 2017
- Steve Flaim, PhD, FACC, FAHA, Chairman Emeritus, Tech Coast Angels, Director Angel Capital Association
- Larry Stambaugh, Founding Principal, Aperçu Partners, Founding Principal, Aperçu Partners, Chairman, Molecular Assemblies, Inc., Chairman, MindXSciences, Inc., LifeTime Director, BioCom, Chairman, ParaNetics

Boston, MA 2018
- Edward Ross, Jr., MBA, President & CEO, ReadyDock, Inc., Member, MassMedical Angels and Launchpad Venture Group
- Amy Siegel, MA, Co-founder and President, S2N Health
**Convention Registration** opens at 1:00 PM on Saturday, June 2. Participants in the Boot Camp should obtain their Convention Badges prior to the Boot Camp.

### Sunday, June 3, 2018 Program Schedule

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<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter/Moderator</th>
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<tr>
<td>8:00 AM - 8:30 AM</td>
<td>Registration &amp; Continental Breakfast</td>
<td>National and Local Co-Chairs: James Jordan, MBA, CHT</td>
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<tr>
<td>8:30 AM - 9:00 AM</td>
<td>Opening Remarks, Program Overview of Program and Sponsor Acknowledgments</td>
<td>James Jordan, MBA, CHT</td>
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<tr>
<td>9:00 AM - 9:45 AM</td>
<td>SESSION 1: Keynote Speaker</td>
<td>Ketan Patel, MD, MBA</td>
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<td>Partner, F-Prime Capital</td>
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<td>James Jordan, MBA, CHT</td>
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<td>President &amp; CEO, Pittsburgh Life Sciences Greenhouse</td>
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<td>Distinguished Service Professor in Healthcare &amp; Biotechnology Management, Carnegie Mellon University</td>
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<tr>
<td>9:45 AM - 10:45 AM</td>
<td>SESSION 2: Project, Product or Company: Assessment and Qualification of Technologies as a Basis for a Business Startup</td>
<td>Arthur A. Boni, PhD</td>
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<td>John R. Thorne Distinguished Career Professor of Entrepreneurship, Tepper School of Business, Carnegie Mellon University</td>
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<td>Presenter:</td>
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<td>Mark Tepper, PhD</td>
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<td>President &amp; Chief Scientific Officer, Corbus Pharmaceuticals Holdings, Inc.</td>
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<td>Commentators:</td>
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<td>Edward Ross, Jr., MBA</td>
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<td>Dennis Gross, MS, PhD</td>
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<td>Hank Safferstein, PhD, JD, MBA</td>
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<tr>
<td>10:45 AM - 11:00 AM</td>
<td>Break-out with refreshment for Case Discussion followed by group recommendations</td>
<td>Reconvene for group recommendations</td>
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<tr>
<td>Time</td>
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| 11:00 AM - 11:45 AM | **Session 3: Reimbursement & Pricing Strategies** | **Moderator:** Stephen M. Sammut, MBA  
Senior Fellow, Health Care Management and Lecturer, Entrepreneurship, Wharton School, University of Pennsylvania | **Faculty:** Robert Wanerman, JD, MPH  
Partner, Epstein, Becker & Green, PC |
| 11:45 AM - 12:30 PM | **SESSION 4: What Every Investigator Must Know about IP in Biotechnology Startups** | **Moderator:** Stephen M. Sammut, MBA  
Senior Fellow, Health Care Management and Lecturer, Entrepreneurship, Wharton School, University of Pennsylvania | **Faculty:** Kathryn Doyle, PhD, JD  
Partner, Saul Ewing Arnstein & Lehr LLP |
| 12:30 PM - 1:00 PM | Lunch                                              |                                                |                                              |
| 1:00 PM – 2:00 PM | **SESSION 5: Regulatory Planning for the U.S. & Global Market - Implications for Strategy and Financing** | **Moderator:** Dennis Gross, MS, PhD  
CEO, Pennsylvania Drug Discovery Institute at The Pennsylvania Biotechnology Center | **Faculty:** David T. Lin, PhD  
Senior Consultant, Biologics Consulting Group, Inc. |
| 2:00 PM – 2:45 PM | **SESSION 6: The R&D - Marketing Interface**       | **Moderator and Speaker:** James Jordan, MBA, CHT  
President & CEO, Pittsburgh Life Sciences Greenhouse  
Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University |                                                |
The TPP ensures product strategy and commercialization plan details do not disconnect as resource and technical constraints avail themselves during implementation.

**Faculty:**
**Thanigavelan Jambulingam, PhD**  
Professor, Pfizer Fellow, Arrupe Research Fellow, Department of Pharmaceutical and Healthcare Marketing, Haub School of Business, Saint Joseph's University

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<td>2:45 PM - 3:00 PM</td>
<td><strong>Bio-Break</strong></td>
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| 3:00 PM - 3:45 PM | **SESSION 7: Building an IP Pyramid impervious to competitive advancement**  
A patent excludes others from replicating an approach, however that may not equate to an exclusive market position. True exclusivity is creating a competitive position impervious to competitive advancement.  
The goal of the Intellectual Property Pyramid™ is to understand the exclusivity a patent provides matched with the desired result. What you are trying to understand is the reason the patent exists (the problem it’s solving) and then ask yourself if your patent is the only path to achieving that goal. | **Moderator:**  
James Jordan, MBA, CHT  
President & CEO, Pittsburgh Life Sciences Greenhouse  
Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University  
**Faculty:**  
Raymond A. Miller, JD  
Partner, Pepper Hamilton LLP  
Hank Safferstein, PhD, JD, MBA  
Executive in Residence, Pittsburgh Life Sciences Greenhouse  
Senior Vice President, Cognition Therapeutics |  

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| 4:00 PM – 4:45 PM | **SESSION 8: Building and working with the Board**  
Building and working with a board is a key element for success in entrepreneurial companies. Better boards make better companies. We will cover the best practices and successful principles of a great board and sound corporate governance processes. | **Moderator:**  
Stephen M. Sammut, MBA  
Senior Fellow, Health Care Management and Lecturer, Entrepreneurship, Wharton School, University of Pennsylvania  
**Presenter:**  
James Jordan, MBA, CHT  
President & CEO, Pittsburgh Life Sciences Greenhouse  
Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University |  

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<th>Presenters</th>
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| 4:45 PM - 5:30 PM | **SESSION 9: Building an Entrepreneurial Management Team**  
Team building in biotechnology companies is the most challenging task for entrepreneurs, and the backbone of venture capitalists’ decision to invest or not to invest. The session provides exploration of the issues in forming an entrepreneurial team of a start-up or early stage company. |  
**Lecturer and Moderator:**  
Arthur A. Boni, PhD  
John R. Thorne Distinguished Career Professor of Entrepreneurship, Tepper School of Business, Carnegie Mellon University |  
**Presenters:**  
Samuel F. Straface, PhD  
President & CEO, Medrobotics Corporation |
stage company and approaches to successful team formation and management of the team.

The panelists represent the perspective of a CEO and a venture capitalist who built the management team of local company.

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<th>5:30 PM - 7:00 PM</th>
<th>Networking Reception</th>
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**Mark A. Peters, MBA, CPA**  
Chief Financial Officer and Treasurer, Medrobotics Corporation

**Faculty:**  
**Edward Ross, Jr., MBA**  
President & CEO, ReadyDock, Inc.  
Member, MassMedical Angels and Launchpad Venture Group

**Amy Siegel, MA**  
Co-founder and President, S2N Health
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| 9:00 AM -    | **SESSION 10: The Business Plan and Pitch Book in the Fund Raising Process** | **Arthur A. Boni, PhD**  
John R. Thorne Distinguished Career Professor of  
Entrepreneurship, Tepper School of Business,  
Carnegie Mellon University |
| 9:40 AM -    | **SESSION 11: Leveraging Resources of Partners to Optimize Value Creation and  | **Arthur A. Boni, PhD**  
John R. Thorne Distinguished Career Professor of  
Entrepreneurship, Tepper School of Business,  
Carnegie Mellon University |
| 10:00 AM -   | **SESSION 12: Group & Presentations**                                         | **Stephen M. Sammut, MBA**                                                            |

**Moderator:** Stephen M. Sammut, MBA
Utilizing the worksheet provided, students will discuss and identify the areas where partnerships could either accelerate, de-risk or deepen domain relationships. Utilizing group discussions, gather potential partners and introductions.

Two volunteers will take 15 minutes each to discuss their strategies.

### SESSION 13: Capitalization of your Venture

A start-up requires the continuous alignment of customer, investor and acquirer’s objectives and concerns. Investors fund the journey, and a poorly planned and ill-provisioned journey increases the probability of failure.

This discussion will center around the customer (who in this case is the investor) so students can understand their needs, timing and investment criteria.

- Non-Dilutive Funding – NIH
- Angels
- Corporate Venture Capital
- Venture Capital
- Corporate Partners

**Moderator:**
Edward Ross, Jr., MBA  
President & CEO, ReadyDock, Inc.  
Member, MassMedical Angels and Launchpad Venture Group

**Faculty:**
- Benjamin Chen, PhD  
Managing Partner, Ignatius Transaction Partners
- James Foley, PhD  
CEO Aqua Partners, former head of Business Development, Bristol Myers Squibb
- David Smith, JD  
Pepper Hamilton LLP

### Lunch Box in Room

### SESSION 14: Pre-seed/Seed Funding Pitch

The facilitator will give a brief introduction on the phases of private equity funding.

Companies need to be aware of the expectations of investors for each phase, and also learn to handle objections. For example, if a pre-seed funder is asking you for human data, they either aren’t a pre-seed funder or they are using the objection to avoid investing or providing feedback.

In this segment two companies will present their investor pitch and receive feedback appropriate to their investment phase.

**Moderator:**
Edward Ross, Jr., MBA  
President & CEO, ReadyDock, Inc.  
Member, MassMedical Angels and Launchpad Venture Group

**Presenters:**
- Ed Goluch, MS, PhD  
Founder and President, QSM Diagnostics
- Isaac Stoner, MBA  
President and COO, Octagon Therapeutics

**Faculty:**
- Benjamin Chen, PhD  
Managing Partner, Ignatius Transaction Partners
- James Foley, PhD  
CEO Aqua Partners, former head of Business Development, Bristol Myers Squibb
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| 1:30 PM – 2:00 PM | **SESSION 15: Defining your Exit Triggers**   | Amy Siegel, MA  
Co-founder and President, S2N Health                                              |
|                 |                                               | Lecturer: James Jordan, MBA, CHT  
President & CEO, Pittsburgh Life Sciences Greenhouse  
Distinguished Service Professor in Healthcare & Biotechnology Management, Carnegie Mellon University |
|                 | Running out of cash can be caused by a poorly planned and ill-provisioned journey. Startups frequently run out of cash when they mis-plan their exit. This discussion will offer you a tool to aid in your planning. |
| 2:00 PM – 3:00 PM | **SESSION 16: Early-Stage Funding Pitch**     | Amy Siegel, MA  
Co-founder and President, S2N Health                                              |
|                 |                                               | Moderator: Amy Siegel, MA  
Co-founder and President, S2N Health                                              |
|                 | Early-stage valuation points are frequently aligned with Phase II clinical trial inflection points from an investor perspective. Additionally, the probability of strategic investors and a milestone based exit are available. This requires a pitch that satisfies a broader audience. |
|                 | In this segment, two companies will present their investor pitch and receive feedback appropriate to their investment phase. |
| 3:00 PM – 3:15 PM | **Break-out with refreshment for Group Discussions** |                                                |
| 3:15 PM – 3:45 PM | **SESSION 17: Group & Presentations**         | Stephen M. Sammut, MBA  
Senior Fellow, Health Care Management and Lecturer, Entrepreneurship, Wharton School, University of Pennsylvania |
|                 | Utilizing the feedback given during the two investor pitches, students will discuss and identify areas of improvement in their pitches. Two volunteers will take 15 minutes each to discuss their strategies. |
| 3:45 PM – 4:30 PM | **SESSION 18: Working with the Media: Thoughts for Bio-Entrepreneurs** | Moira A Gunn, PhD  
Host, NPR - BioTech Nation  
Director, Business of Biotechnology Program  
Professor, School of Management, University of San Francisco |
|                 | Lecturer: Moira A Gunn, PhD  
Host, NPR - BioTech Nation  
Director, Business of Biotechnology Program  
Professor, School of Management, University of San Francisco |
|                 | Working with the Media: Thoughts for Bio-Entrepreneurs |
| 4:30 PM – 6:00 PM | **SESSION 19: Capitalization of the Venture - Mechanics** | Dennis Gross, MS, PhD |
|                 | Moderator: Dennis Gross, MS, PhD |

BIO Biotechnology Entrepreneurship Boot Camp, Boston, 2018, Version 3
CEOs and CSOs of biotechnology companies spend as much time raising capital as managing their company.

An attorney specializing in company formation and capitalization will join the panel to provide legal models.

**Faculty:**
David Smith, JD
Pepper Hamilton, LLP

| 6:00 PM | SESSION 20: Boot Camp Wrap-up Acknowledgements & Adjournment | National and Local Co-Chairs |